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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 30412-2013

**Determination of water vapour transmission rate for plastic film
and sheeting -- Humidity detection sensor method**

塑料薄膜和薄片水蒸气透过率的测定 湿度传感器法

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
5 Sample

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses redrafted Law Amendment uses ISO 15106-1:2003 "Plastics film and sheet water vapor permeability test methods Part 1. Humidity detection sensor method. " this standard and ISO 15106-1:2003 compared to 7.4 in the structure removed and Chapter 12.

This standard and ISO 15106-1:2003 and its technical differences for the following reasons.

- Remove the 1 in the range of "Notes." To coordinated with several other national standards ISO 15106 transformed in order to avoid Ambiguity.
- Remove the 2 Normative references in ISO 2528:1995. ISO 2528:1995 does not apply to the scope of the current Plastic film products, and it is not currently subject to national standards adopted.
- The 7.4 content into 7.2, and the "storage tank" was changed to "the holding plate", the "pump" to "air", while Tester structural example of the figure has also been revised accordingly. Thus test equipment requirements, describes the role and function more clear Clarity, clear, broader applicability.

This standard made the following editorial changes.

- The standard name was changed to "transmittance measurement of plastic film and sheet water vapor humidity sensor method."
- The 3.2 reference standard test sample change translated into film.

The standard proposed by China National Light Industry Council.

This standard by the National Plastics Standardization Technical Committee (SAC/TC48) centralized.

This standard was drafted. National Packaging Product Quality Supervision and Inspection

Center (Tianjin), Labthink Technology Co., Ltd.

1 Scope

This standard specifies a test method for plastic film and sheet water vapor transmission rate was measured by using a humidity sensor.

This standard applies to the plastic film, sheet and determination of water vapor transmission rate of multilayer films.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 6672 plastic film and sheet thickness measurement of the mechanical measurements (GB/T 6672-2001, idt ISO 4593:1993)

3 Terms and Definitions

The following terms and definitions apply to this document.

Water vapor transmission rate w ; WVTR Under certain conditions, the amount of water vapor per unit time through unit area of specimen (g). Expressed in units of grams per square meter per 24 hours $[G/(m^2 \cdot 24h)]$.

Standard film reference test specimen to calibrate the device using standard film, the film may be a known standard water vapor transmission rate of the film, or obtained by the weight of distilled water standard test method Vapor transmission rate of the film.

Principle 4

Samples separated by a predetermined relative humidity and low humidity chamber having a saturated water vapor at a known temperature and high humidity chamber. Humidity sensor Low humidity chamber at relative humidity measurement, to determine the sample vapor permeable and humidity changes caused, and the measured relative humidity as Electrical signal output, the time required to record the humidity rises to a predetermined value, the sample is used to calculate the water vapor transmission rate.

5 Sample

5.1

sample should be representative, uniform thickness, no wrinkles, creases, pinholes and other defects. Sample area should be larger than the cavity through the area, and can

Tightly fixed between the two cavities.

5.2

Unless otherwise specified, take three samples test, the test specimen should be the same machine at the same time.

Sample thickness measuring 5.3 according to the provisions of GB/T 6672, each equidistant uniform sample measuring 3 points.